Washington State GIS Framework Plan

January 2001

Purpose

The Washington State GIS Framework is key to providing for effective development, exchange, and use of geographic data to meet the information needs generated by the public policy challenges of the state. Success of the framework requires cooperation of many partners including customers, suppliers, and stakeholders. This plan is intended to provide the partners an overview of the various projects underway to develop the framework, the current state of progress, and plans for the future.

Background on the Washington State GIS Framework

The framework will provide a statewide data infrastructure available for effective resolution of state and local policy issues. The Washington Geographic Information Council (WAGIC) strategic plan identifies public policy challenges to which GIS technology and framework data may be applied: **improved effectiveness of local and state government** is achieved through the increased use of publicly accessible and standardized geographic information; **growth management policies and programs** rely on information that is integrated from many jurisdictions; **economic development** requires access to current information about infrastructure, resources, and constraints; comprehensive data assists in understanding the complex systems that affect **threatened and endangered species** and their habitats; **preservation and thoughtful use of water resources** are key to addressing growth management and salmon recovery; Washington citizens and policy-makers need to understand how the **transportation infrastructure** influences growth, and how to maximize the efficiency of public transportation.

Geographic information systems (GIS) are computer systems capable of storing and using information that describes places on the earth's surface, generally referred to as geographic data. The power of GIS as a management, planning, and decision making tool has become increasingly prominent over the last several years. Data collection and maintenance are the most significant costs associated with GIS. Oftentimes, the same GIS data are collected by many organizations. The current environment of individual GIS data development creates duplication of effort and oftentimes, incompatible data.

The good news is that there are coordinated efforts underway to help alleviate this problem. The Washington State GIS Framework is a partnership effort to create a widely available source of statewide, core GIS data together with an environment that supports collaborative data collection, maintenance, and use of these data. The framework provides a common GIS data foundation upon which organizations can add more detail.

The Washington State GIS Framework is being developed under the auspices of the Washington Geographic Information Council (WAGIC). The WAGIC is a statewide body responsible for coordinating and facilitating the use and development of geographic data by federal, state, regional, local governments, tribal and private entities. A top

priority of the 1999 WAGIC strategic plan for GIS is to complete the framework. When complete, the framework will include core information for commonly needed subjects such as transportation, surface water, property ownership, elevation, and geographically referenced imagery.

Assumptions

Development and operation of the Washington State GIS Framework involves coordination of the many participating partners who will contribute, maintain, and use framework data. To set expectations of the many partners, assumptions have been identified for the framework as a whole and for the individual development projects. Assumptions that apply to the framework as a whole include:

1. Framework theme projects will create a model and process through which data will be contributed by partners. The projects will provide the mechanism for operation and maintenance of the framework themes.
2. Framework theme data will be provided by many partners from new and existing databases. Data maintenance responsibility will be shared by the partners. Data maintenance will be managed by data stewards identified for each theme and in some cases, for subsets of the theme. Data providers will have a business interest in maintaining accurate data.
3. Initial implementation of framework themes may not contain full data coverage for the state. Data will be added over time as more partners are recruited to participate and provide their data.
4. Framework data will improve over time. Initial data implementations will likely be small scale (lower level of detail) contributed by federal and state partners. Larger scale (higher level of detail) data will be contributed largely by local agencies as they become involved.
5. Funding Sources:
    - Existing resources: Some data collection and data maintenance efforts will be redirected to support the framework.
    - New information projects: As databases are (re)developed to meet changing program business needs, they may be done in such a way as to use and contribute to the framework.
    - New appropriations of state funds and grants of federal funds.

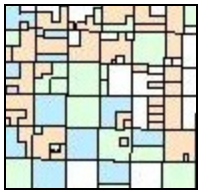
Organizational Structure and Governance of Framework Projects

The Framework Management Group (FMG) is a work group of the WAGIC formed to develop the framework. The FMG serves as a consensus building body that provides overall direction to individual framework projects. The FMG determines framework priorities, identifies and facilitates resolution of common framework issues, and ensures coordination among the projects. Project teams that develop the framework data themes report to the FMG. Membership in the FMG is free and widespread participation is encouraged. There is an elected chairperson from the membership. The Washington Department of Natural Resources (WADNR), provides staff support to the FMG.

Washington State GIS Framework Projects

The framework development efforts have been organized by project theme (geographic data subject). To date, three framework project themes have been initiated including; cadastral (land survey and property ownership), hydrography (surface water), and transportation. Accomplishments, work in progress, and future plans are identified below.

Cadastral Framework Project



The Cadastral Framework Project is a cooperative project of local, state, and federal agencies, along with other organizations, to develop core data standards and business processes that will allow collaborative collection and maintenance of geographic data pertaining to land ownership, land management, land surveys, and land taxation. The lead agency is the WA Department of Natural Resources.

Status:

Project Initiation	Requirement Definition & Data Modeling	Pilot Project & Initial Implementation	Data Distribution	Data Gathering		Data Maintenance

The Cadastral Framework is operational with partnership agreements in place, a core data model populated with initial statewide data, and mechanisms to integrate partner data contributions. Cadastral Framework data is accessible to the public through the Internet.

Work In Progress Utilizing Existing Partner Resources (FY 2001):

- Providing input to software vendors for implementing cadastral data standards within new GIS tools/products.
- Coordinating with other agencies on 2001-03 budget requests with cadastral GIS data components.
- Providing limited outreach and coordination activities to expand cadastral framework partnerships.

Planned Efforts Pending State Funding Approval (2001-03 biennium):

- Expand partner data integration beyond initial pilot county to additional counties, state agencies, and other organizations.
- Identify and provide incentives for local government participation.
- Expand partnerships through increased outreach and coordination activities.

Planned Future Efforts:

- Develop long term cadastral framework implementation plan

Hydrography Framework Project

The Hydrography Framework Project is a cooperative project of many local, state, and federal agencies, along with other organizations, to develop core data standards and business processes that will allow collaborative collection and maintenance of geographic data pertaining to

surface waters. The hydrography framework data model will support: water courses represented by streams, rivers, aqueducts, conveyances, direction of flow, stream routes, stream segments, and river banks; water bodies represented by lakes, ponds, reservoirs, wetlands, bays/ocean, and the shorelines bounding those features; and water points represented by springs and seeps. The lead agencies are the WA Department of Natural Resources and the WA Department of Ecology.

Status:

Project Initiation	Requirement Definition & Data Modeling	Pilot Project & Initial Implementation	Data Distribution	Data Gathering		Data Maintenance

The Hydrography Framework has developed a core data model and determined organizational roles and responsibilities. Initial implementation is underway.

Work In Progress Utilizing Existing Partner Resources (FY 2001):

- Populating core data model with initial statewide data (partially dependent on additional partner funding).
- Developing Internet tools for data maintenance operations.
- Developing Internet tools for public data distribution.
- Providing input to federal hydrography framework standards committee.
- Preparing to begin maintenance operations for improvement of the initial data.

Planned Efforts Pending Funding Approval (2001-03 biennium):

- Identify and provide incentives for local government participation.
- Expand partnerships through increased outreach and coordination activities.

Planned Future Efforts

- Provide input to software vendors for implementing hydrography data standards within new GIS tools/products.

Transportation Framework Project

The Transportation Framework Project is a cooperative project of local, state, and federal agencies, and other organizations, to develop core data standards and business processes that will allow collaborative collection and maintenance of geographic data pertaining to transportation. The lead agency is the Washington State Department of Transportation.

Status:

Project Initiation	Requirement Definition & Data Modeling	Pilot Project & Initial Implementation	Data Distribution	Data Gathering		Data Maintenance

The Transportation Framework has developed a draft core data model. Planning for a pilot project and implementation are underway.

Work In Progress Utilizing Existing Partner Resources (FY 2001):

- Analyzing data requirements and defining core data.
- Initiating and completing pilot project.

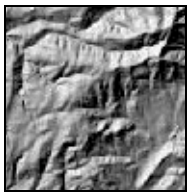
Planned Efforts Pending Funding Approval (2001-03 biennium):

- Define organizational roles and responsibilities.
- Establish partnership agreements.
- Populate core data model with statewide road data.
- Develop tools for data access and distribution and tools for integration of data contributions.
- Identify and provide business incentives for local government participation.
- Expand partnerships through increased outreach and coordination activities.

Planned Future Efforts

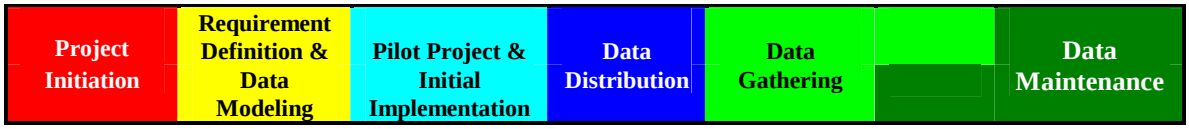
- Develop long term transportation framework implementation plan.
- Expand the transportation framework (beyond roads) to include additional types of transportation data such as pipelines, ferry routes, and railroads.

Elevation Framework Project



The Elevation Framework Project has not been initiated. There have been several cooperative projects between federal and state agencies to collect 30 meter and 10 meter digital elevation model (DEM) data within the state. These established partnerships will be built upon and expanded within the Elevation Framework Project. Participation from local government, tribal, and private organizations will be sought in addition to federal and state organizations.

Status:



(Not initiated.)

Planned Future Efforts (time frame to be determined):

- Identify lead agency.
- Recruit partner organizations for participation.
- Identify project funding sources and garner resources needed for development efforts.
- Analyze data requirements and adopt core data model.
- Determine organizational roles and responsibilities.
- Populate core data model with statewide elevation data.
- Establish partnership agreements to collaboratively maintain the data.

- Develop maintenance and distribution applications and processes.
- Distribute elevation framework data to the public via the Internet.

Geographically Referenced (Geo-referenced) Imagery Framework Project

The Geo-referenced Imagery Framework Project has not been initiated. Digital ortho-imagery is very expensive to collect and maintain. To be useful, it must be updated on a periodic basis. Data currently exists for most of the state and has been collected through cost-sharing, cooperative partnerships. These established partnerships will be built upon and expanded within the Geo-referenced Imagery Framework Project. Participation from local government, tribal, and private organizations will be sought in addition to federal and state organizations.

Status:

(Not initiated.)

Planned Future Efforts (time frame to be determined):

- Identify lead agency.
- Recruit partner organizations for participation.
- Develop project charter.
- Identify project funding sources and garner resources needed for development efforts.
- Define core data and processing requirements.
- Determine organizational roles and responsibilities.
- Define maintenance cycle and associated business processes.
- Collect and process statewide geo-referenced imagery.
- Establish partnership agreements to collaboratively maintain the data.
- Develop distribution application.
- Distribute elevation framework data to the public via the Internet.

Further Information

For further information about the Washington State GIS Framework or the Framework Management Group, visit the Washington GIS Framework web site at http://framework.dnr.state.wa.us or contact:

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